

Int'l Appl. No. : PCT/JP2003/016266
Int'l Filing Date : December 18, 2003

AMENDMENTS TO THE CLAIMS

Please amend the Claims as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (original): A positive resist composition comprising:

 a resin component (A) containing an acid dissociable dissolution inhibiting group whose alkali solubility increases under action of acid; and

 an acid generator component (B) that generates acid on exposure, wherein

 the resin component (A) is a copolymer comprising a first structural unit (a1) derived from a hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester containing an alcoholic hydroxyl group, in which 10 mol% or more and 25 mol% or less of a combined total of hydroxyl groups within the structural units (a1) and alcoholic hydroxyl groups within the structural units (a2) are protected with the acid dissociable dissolution inhibiting groups, and

 a weight average molecular weight of the copolymer prior to protection with the acid dissociable dissolution inhibiting groups is 2,000 or more and 8,500 or less.

2 (original): A positive resist composition according to claim 1, wherein a molar ratio between the structural units (a1) and the structural units (a2) within the component (A) prior to protection with the acid dissociable dissolution inhibiting groups is within a range from 85:15 to 70:30.

3 (original): A positive resist composition according to claim 1, wherein the structural unit (a2) is a structural unit derived from a (meth)acrylate ester containing an aliphatic polycyclic group with the alcoholic hydroxyl group.

4 (original): A positive resist composition according to claim 3, wherein the structural unit (a2) is a structural unit derived from a (meth)acrylate ester containing an adamantyl group with an alcoholic hydroxyl group.

5 (original): A positive resist composition according to claim 1, wherein the acid dissociable dissolution inhibiting group is a 1-lower alkoxyalkyl group.

6 (original): A positive resist composition according to claim 1, wherein the copolymer of the resin component (A) further comprises a third structural unit (a3) derived from a styrene.

7 (original): A positive resist composition according to claim 1, wherein a polydispersity (Mw/Mn ratio) of the copolymer prior to protection with the acid dissociable dissolution inhibiting groups is 2.0 or less.

8 (original): A positive resist composition according to claim 1, wherein the acid generator component (B) comprises a diazomethane-based acid generator.

9 (currently amended): A positive resist composition according to ~~any one of~~ claim 1 to 8, further comprising a secondary or tertiary lower aliphatic amine (C).

10 (currently amended): A method of using the positive resist composition according to claim 1, ~~which is used for~~ comprising: applying the positive resist composition on a substrate to forming a positive resist film ~~within a method of forming a resist pattern comprising~~, performing selective exposure of the positive resist film ~~provided on a substrate~~, conducting a developing treatment to form a resist pattern, and subjecting the resist pattern to a thermal flow treatment, thereby narrowing the resist pattern.

11 (original): A method of forming a resist pattern comprising:
forming a positive resist film on a substrate using a positive resist composition according to claim 1;

performing selective exposure of the positive resist film;
conducting a developing treatment to form a resist pattern; and
subjecting the resist pattern to a thermal flow treatment, thereby narrowing the resist pattern.

12 (new): A positive resist composition according to claim 2, further comprising a secondary or tertiary lower aliphatic amine (C).

13 (new): A positive resist composition according to claim 3, further comprising a secondary or tertiary lower aliphatic amine (C).

14 (new): A positive resist composition according to claim 4, further comprising a secondary or tertiary lower aliphatic amine (C).

15 (new): A positive resist composition according to claim 5, further comprising a secondary or tertiary lower aliphatic amine (C).

16 (new): A positive resist composition according to claim 6, further comprising a secondary or tertiary lower aliphatic amine (C).

17 (new): A positive resist composition according to claim 7, further comprising a secondary or tertiary lower aliphatic amine (C).

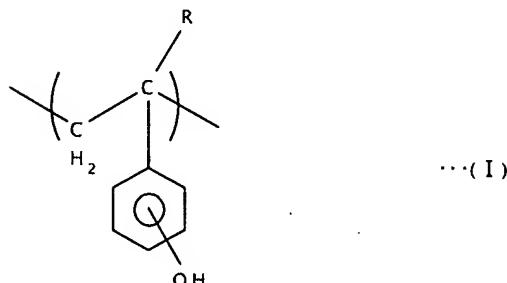
18 (new): A positive resist composition according to claim 8, further comprising a secondary or tertiary lower aliphatic amine (C).

19 (new): A positive resist composition comprising:

a resin component (A) comprising a copolymer constituted by hydroxystyrene units (a1) and (meth)acrylate ester units (a2) containing alcoholic hydroxyl groups, wherein hydroxyl groups of the hydroxystyrene units (a1) and the alcoholic hydroxyl groups of the (meth)acrylate ester units (a2) are introduced into side chains of the copolymer, and 10-25 mol% of the introduced hydroxyl groups and alcoholic hydroxyl groups are protected with acid dissociable dissolution inhibiting groups whose alkali solubility increases under action of acid, said copolymer having a weight average molecular weight of 2,000 to 8,500 as measured prior to the protection; and

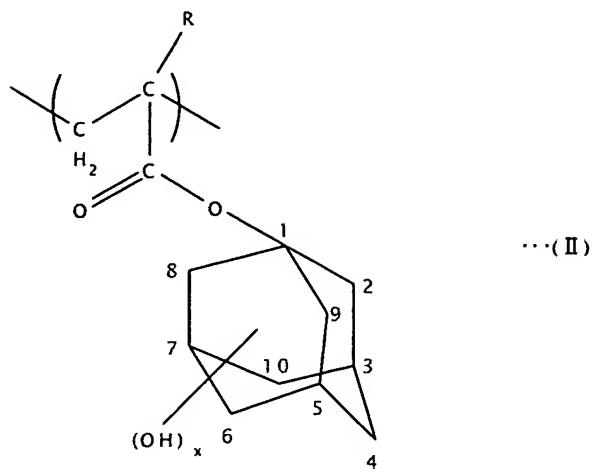
an acid generator component (B) that generates acid on exposure for increasing alkali solubility of the acid dissociable dissolution inhibiting groups.

20 (new): The positive resist composition according to claim 19, wherein each hydroxystyrene unit (a1) is represented by



wherein, R represents a hydrogen atom or a methyl group, and each (meth)acrylate ester unit (a2) is represented by

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wherein, R represents a hydrogen atom or a methyl group, and x represents an integer from 1 to 3.